MLS 304SA MediaLink™ Switcher

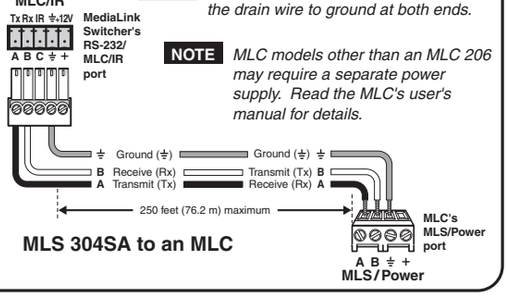
Control Connections

This RS-232 port is used to connect the switcher to an MLC or a PC and to configure the switcher via the supplied MediaLink Control Software.

RS-232 MLC/IR

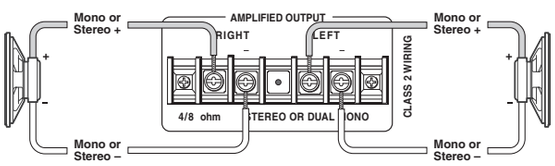
NOTE *If you use cable that has a drain wire, tie the drain wire to ground at both ends.*

NOTE *MLC models other than an MLC 206 may require a separate power supply. Read the MLC's user's manual for details.*



MLS 304SA to an MLC

Amplified Audio Output



4 Ohm *or* 8 Ohm Load **4 Ohm *or* 8 Ohm Load**

NOTE *The default setting is stereo. Dual mono can be selected via software.*

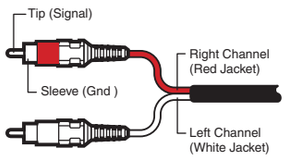
CAUTION *Do not short output terminals to ground. Do not bridge the outputs.*

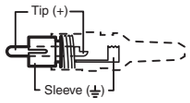
CAUTION *The MLS 304SA integrates a class AB amplifier. It will get warm.*

Non-amplified Audio Connections

Inputs 1 and 2

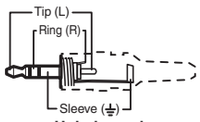
RCA (Tip-Ring) Connectors





Inputs 3 and 4

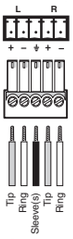
3.5 mm Stereo Plug Connectors



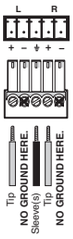
Unbalanced

Lineout/Preamp

Balanced Stereo Output



Unbalanced Stereo Output



Mono Output

For mono output, wire *either* the left or the right side (not both).

Output level options:

- **-10 dBV (0.316 Vrms), unbalanced**: default, for consumer level devices such as VCRs, self-powered speakers, and stereo receivers.
- **+4 dBu (1.23 Vrms), balanced**: for professional devices such as mixers, signal processors, and power amps.

CAUTION

Connect the sleeve to ground (Gnd). *Connecting the sleeve to a negative (–) terminal will damage the audio output circuits.*

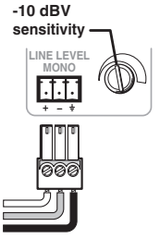
Auxiliary/Mixer Input Connections

The Aux/Mix input accepts a balanced or unbalanced mono signal from various audio sources such as a wireless microphone. Setting the potentiometer to the marked location sets the input level sensitivity for a -10 dBV (approximately) consumer signal.

NOTE *The maximum auxiliary input signal level is +4 dBu. Do not exceed this input level.*

Use a small screwdriver to adjust the Aux/Mix level (-42 dB to +24 dB) via the rear panel control.

Set the level to minimum if no input is connected.



Resetting to Defaults

To reset the switcher:

1. Unplug the switcher from AC power.
2.

Press and hold buttons 1 and 4 simultaneously while connecting the MLS to AC power.
All input selection buttons blink for one second while the MLS resets.
3. Release the buttons.

These items are reset:

- audio level (sensitivity, -10 dBV)
- audio gain/attenuation (+6 dB)
- bass and treble (0)
- loudness (off)
- line level and amp out (stereo)
- video type (inputs 3-4 = RGB)
- RGB delay (0 sec.)
- Monitor Output mode (RGB follow)
- executive mode (off)
- Aux/Mix (on)
- volume (41)

Setup/Configuration: Optimizing the Audio

The Extron MLS 304SA is a four input switcher with an integrated audio amplifier. Input and output (Preamp and Lineout) audio levels may need to be adjusted depending on the variation of output levels from different source devices.

Bass, treble, and loudness should be adjusted once the input and output levels have been adjusted. By default bass and treble have been set to 0, and loudness has been set to Off.

Input level sensitivity can be adjusted via the front panel. Other adjustments must be performed via the supplied MediaLink Control Software (available at www.extron.com) through the RS-232 port.

CAUTION *Do not connect speakers to the MLS's amplifier output until setup has been completed and volume has been set to the minimum level.*

Configuring Lineout and Preamp output levels

Prior to adjusting any input levels, an output level must be selected from the following options. You will not need to change the output level if the Lineout and Preamp outputs will not be used.

- **-10 dBV, unbalanced (consumer) (default):** typically used when the switcher's unbalanced output is connected to the input of a consumer product such as a VCR, stereo receiver-amplifier, or self-powered speakers with unbalanced inputs.
- **+4 dBu, balanced (professional):** typically used when the switcher's balanced output is connected to the input of a professional product such as a mixer, power amplifier, or some assistive listening devices with balanced inputs.

NOTE *Check manufacturers' specifications for details on input/output devices that you will connect to the Preamp and Lineout outputs.*

Adjusting audio input levels

Adjusting the input level (sensitivity) for each input via the front panel or the supplied control software ensures that the switcher can deliver maximum power out of the amplifier, output the proper signal on the Lineout and Preamp outputs, and prevent noticeable jumps in audio levels during input switching.

The input level (sensitivity) can be adjusted (-42 dB to +24 dB) for all of the inputs (including the Aux/Mix input).

NOTE *The Auxiliary/Mix input level can be adjusted via the rear panel only. It cannot be adjusted via the control software.*

Common output levels for audio source devices range from -20 dBV, unbalanced, to +4 dBu, balanced. If the input level sensitivity settings are not closely matched to the source devices' levels, the signal may be overdriven and distorted.

- **Consumer portable** devices such as personal CD players and laptops typically have fixed and/or variable unbalanced outputs. If connecting a variable level output to the switcher, you must make adjustments with the source's volume set to maximum.
- **Consumer non-portable** devices such as VCRs, DVD players, and computer sound cards typically output an unbalanced **-10 dBV** signal.
- **Professional** products such as preamps, mixers, and signal processors typically output a balanced **+4 dBu** signal.

NOTE *There can be large variations in sources' output levels. Check manufacturers' specifications for details on devices connected to the switcher's inputs.*

Input level adjustments can be made in 1 dB increments/decrements via the front panel or the control software. Refer to the user's manual for instructions.

NOTE *Because there are many different output levels for source devices, Extron recommends that you adjust the **input** level (sensitivity) for each input. When making these adjustments, use source material with a wide dynamic range. The material should have loud passages representative of what will be used in the system.*

Making adjustments

Leave the bass and treble set to 0 and the loudness control set to off (default) prior to adjusting the input level (sensitivity). Audio input levels *must* be adjusted with an *active* audio signal.

1. Connect an active audio source to an input on the switcher.
2. Select the MLS 304SA's input with the active input signal.
3. Adjust the switcher's input level via front panel or control software until the desired output level is reached and/or the Mid/Normal LED turns on.

NOTE *Increasing the audio level beyond the point at which the Mid/Normal LED flashes may result in a distorted output signal.*

Front panel setup mode: press and ***hold*** the input button for 3 seconds; the input's LED blinks. While still pressing the input button, rotate the Volume knob to adjust the input level.

NOTE *In setup mode a blinking or lit Mid/Normal LED indicates that the power amplifier is capable of delivering maximum power output.*

Clip: if blinking/lit, the level is set too high.

Normal: a blinking LED indicates that the level is set properly for max. power output.

Signal: when lit this LED indicates that a signal of at least -20 dBV (-18 dBu) is detected at the input.

4. Once the desired level is reached, release the input button to save the audio settings.
5. Repeat steps 1-4 for each input.
6. Fine tune levels including bass, treble, and loudness once all output devices (speaker, amp, etc.) have been connected.

Loudness control automatically provides the correct amount of bass and treble required to compensate for the change in response of the human ear at low levels. As volume decreases, the MLS automatically boosts the signal at 100 Hz and at 10 kHz. As volume is increased, the boost at those frequencies is decreased. By default this is set to Off. Use control software to turn it on.

Refer to the manual for details on how the loudness contour works with the MLS 304SA.

Gain/attenuation
-42 dB to +24 dB

Sensitivity
-20 dBV (-18 dBu, 100 mV)

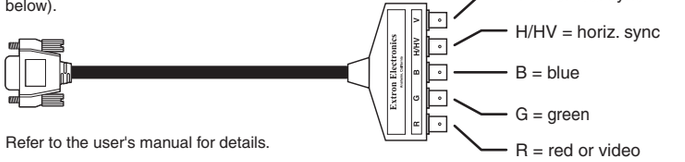
Tone
Bass: +/-10 dB at 100 Hz
Treble: +/-10 dB at 10 kHz
Loudness: +6 dB at 100 Hz/10 kHz

MLS amplifier power-up delays
8 seconds for 4/8 ohm output

Video Configuration

The 15-pin HD inputs (inputs 3 and 4) are, by default, configured for RGB computer video. They can be configured for video/S-video via RS-232 through the control software only.

When an input is configured for video, use an Extron 15-pin to 5 BNC cable adapter (shown below).



Refer to the user's manual for details.

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